

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**



Complete if Known

Application Number	09/772,445
Filing Date	January 29, 2001
First Named Inventor	Hynda K. KLEINMAN
Group Art Unit	1654
Examiner Name	Ronald T. Niebauer
Confirmation No.	1045
Attorney Docket Number	2600-109

Sheet 1 of 3

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY
		Number	Kind Code ² (if known)		
	1	4,389,343		HORECKER	06-21-1983
	2	5,578,570		GOLDSTEIN et al.	11-26-1996

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T ²
	3	AGUDA et al., "The Structural Basis of Actin Interaction with Multiple WH2/β-Thymosin Motif-Containing Proteins" Structure 14:469-476 (March 2006)	
	4	ATHMAN et al., "Villin Enhances Hepatocyte Growth Factor-induced Actin Cytoskeleton Remodeling in Epithelial Cells" Molecular Biology of the Cell 14:4641-4653 (November 2003).	
	5	CARPINTERO et al., "The thymosin β ₄ gene is strongly activated in neural tissues during early postimplantation mouse development" Neuroscience Letters 184 (1995) pp. 63-66.	
	6	COWIN et al., "Differential Effect of Wounding on Actin and its Associated Proteins, Paxillin and Gelsolin, in Fetal Skin Explants" J Invest Dermatol (2003) 120:1118-1129.	
	7	CROW et al., "One-Trial In Vitro Conditioning of <i>Hermissenda</i> Regulates Phosphorylation of Ser-122 of Csp24" Ann. N.Y. Acad. Sci. 1112:189-200 (2007).	
	8	DOERING et al., "Cysteine Scanning Mutagenesis at 40 of 76 Positions in Villin Headpiece Maps the F-Actin Binding Site and Structural Features of the Domain" Biochemistry 1996, 35:12677-12685.	
	9	FEINBERG et al., "The N-Terminal Sequence (5-20) of Thymosin β ₄ Binds to Monomeric Actin in an α-Helical Conformation" Biochemical and Biophysical Research Communications 222:127-132 (1996).	
	10	FERRARY et al., "In Vivo, Villin Is Required for Ca ²⁺ -dependent F-actin Disruption in Intestinal Brush Borders" The Journal of Cell Biology (August 1999) 146(4):819-829.	
	11	FROHM et al., "Biochemical and antibacterial analysis of human wound and blister fluid" Eur. J. Biochem. 237:86-92 (1996).	
	12	GILLITZER et al., "Chemokines in cutaneous wound healing" J. Leukoc. Biol. 69:513-521 (April 2001).	
	13	GNECCHI et al., "Evidence supporting paracrine hypothesis for Akt-modified mesenchymal stem cell-mediated cardiac protection and functional improvement" The FASEB Journal 20:661-669 (2006).	
	14	GOLDSTEIN et al., "Acceleration of Lymphoid Tissue Regeneration in X-Irradiated CBAW Mice by Injection of Thymosin ¹ " Radiation Research (1970) 41:579-593.	
	15	GOLLA et al., "Co-ordinate Regulation of the Cytoskeleton in 3T3 Cells Overexpressing Thymosin-β ₄ " Cell Motility and the Cytoskeleton 38:187-200 (1997).	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /R.N./

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Complete if Known

Application Number	09/772,445
Filing Date	January 29, 2001
First Named Inventor	Hynda K. KLEINMAN
Group Art Unit	1654
Examiner Name	Ronald T. Niebauer
Confirmation No.	1045
Attorney Docket Number	2600-109

Sheet 2 of 3

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	T*
	16	GOMEZ-MARQUEZ, "Function of Prothymosin α in Chromatin Decondensation and Expression of Thymosin β -4 Linked to Angiogenesis and Synaptic Plasticity" Ann. N.Y. Acad. Sci. 1112:201-209 (2007).	
	17	GONDO et al., "Differential Expression of the Human Thymosin- β_4 Gene in Lymphocytes, Macrophages, and Granulocytes" Journal of Immunology 139(11):3840-3848 (December 1987).	
	18	GRANT et al., "Matrigel induces thymosin β_4 gene in differentiating endothelial cells" Journal of Cell Science 108:3685-3694 (1995).	
	19	HERTZOG et al., "Control of Actin Dynamics by Proteins Made of β -Thymosin Repeats" The Journal of Biological Chemistry (April 2002) 277(17):14786-14792.	
	20	HINKEL et al., "Rapid eEPC-Mediated Cardioprotection after Ischemia/Reperfusion: Influence of Thymosin Beta 4 Expression" Abstracts of J Vasc Res 2006; 43:534-535.	
	21	HUFF et al., "C-terminal truncation of thymosin β_{10} by an intracellular protease and its influence on the interaction with G-actin studied by ultrafiltration" FEBS Letters 414:39-44 (1997).	
	22	HUFF et al., "Interactions of β -thymosins, thymosin β_4 -sulfoxide, and N-terminally truncated thymosin β_4 with actin studied by equilibrium centrifugation, chemical cross-linking and viscometry" Eur. J. Biochem. 230:650-657 (1995).	
	23	HUFF et al., "Nuclear localisation of the G-actin sequestering peptide thymosin β_4 " Journal of Cell Science (July 2004) 117:5333-5343.	
	24	HUFF et al., "Thymosin β_4 serves as a glutamyl substrate of transglutaminase. Labeling with fluorescent dansylcadaverine does not abolish interaction with G-actin" FEBS Letters (1999) 464:14-20.	
	25	KOPECKI et al., "Flightless I: An actin-remodelling protein and an important negative regulator of wound repair" JBCB (2007), doi:10.1016/j.jbccl.2007.04.011 (5 pages)	
	26	KOUTRAFOURI et al., "Effect of thymosin peptides on the chick chorioallantoic membrane angiogenesis model" Biochimica et Biophysica Acta 1568 (2001) pp. 60-66.	
	27	KOUTRAFOURI et al., "Synthesis and angiogenic activity in the chick chorioallantoic membrane model of thymosin beta-15" Peptides 24 (2003) pp. 107-115.	
	28	LARSSON et al., "Occurrence of thymosin β_4 in human breast cancer cells and in other cell types of the tumor microenvironment" Human Pathology (2007) 38, pp. 114-119.	
	29	LI et al., "Recombinant thymosin beta 4 can promote full-thickness cutaneous wound healing" Protein Expression and Purification 56 (2007) pp. 229-236.	
	30	LUIKART et al., "Mactinin treatment promotes wound-healing-associated inflammation in urokinase knockout mice" Wound Rep Reg (2006) 14:123-128.	
	31	MICERA et al., "Conjunctival expression of thymosin- β_4 in vernal keratoconjunctivitis" Molecular Vision 2006; 12:1594-1600.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /R.N./

INFORMATION DISCLOSURE STATEMENT BY APPLICANT				<i>Complete if Known</i>	
				Application Number	09/772,445
				Filing Date	January 29, 2001
				First Named Inventor	Hynda K. KLEINMAN
				Group Art Unit	1654
				Examiner Name	Ronald T. Niebauer
				Confirmation No.	1045
Sheet	3	of	3	Attorney Docket Number	2600-109

NON PATENT LITERATURE DOCUMENTS					
Examiner Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published			T ²
	32	REDELL et al., "One-Trial <i>In Vitro</i> Conditioning Regulates an Association Between The β -Thymosin Repeat Csp24 And Actin" Neuroscience (2007) 148:413-420.			
	33	RHO et al., "The interaction between E-tropomodulin and thymosin β -10 rescues tumor cells from thymosin β -10 mediated apoptosis by restoring actine architecture" FEBS Letters 557 (2004) pp. 57-63.			
	34	SAFER et al., " β -Thymosins From Marine Invertebrates: Primary Structure and Interaction With Actin" Cell Motility and the Cytoskeleton (1997) 38:163-171.			
	35	SAFER et al., "Isolation of a 5-kilodalton actin-sequestering peptide from human blood platelets" Cell Biology, PNAS USA (April 1990) 87:2536-2540.			
	36	SAFER et al., "Thymosin β_4 and Fx, an Actin-sequestering Peptide, Are Indistinguishable" The Journal of Biological Chemistry (March 1991) 266(7):4029-4032.			
	37	SIMENEL et al., "Structural requirements for thymosin β_4 in its contact with actin" Eur. J. Biochem. 267:3530-3538 (2000).			
	38	SUN et al., "Actin monomer binding proteins" Current Opinion in Cell Biology 1995, 7:102-110.			
	39	SUN et al., " β -Thymosin Are Not Simple Actin Monomer Buffering Proteins" The Journal of Biological Chemistry 271(16):9223-9230 (April 1996).			
	40	TANG et al., "Antimicrobial Peptides from Human Platelets" Infection and Immunity 70(12):6524-6533 (Dec. 2002).			
	41	VAVROVA et al., "The effect of thymosin application upon radiation sickness in mice" Folia Biol (Praha) 1976; 22(5):320-329, and Abstract page.			
	42	WITKE et al., "Hemostatic, Inflammatory, and Fibroblast Responses Are Blunted in Mice Lacking Gelsolin" Cell (April 1995) 81:41-51.			
	43	YOUNG et al., "Thymosin β_4 sulfoxide is an anti-inflammatory agent generated by monocytes in the presence of glucocorticoids" Nature Medicine 5(12): 1424-1427 (December 1999).			
	44	YU et al., "Thymosin β_{10} and Thymosin β_4 Are Both Actin Monomer Sequestering Proteins" The Journal of Biological Chemistry (January 1993) 268(1):502-509.			
Examiner Signature	/Ronald Niebauer/			Date Considered	04/04/2008

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code. ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language translation is attached. AB indicates that only an English language abstract is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /R.N./